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Washington, DC 20001

April 20, 2018

VIA ELECTRONIC FILING

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *Promoting Investment in the 3550-3700 MHz Band*, GN Docket No. 17-258

Dear Ms. Dortch:

On April 18, 2018, Rob Alderfer of CableLabs and I met with Erin McGrath, Wireless, Public Safety, and International Advisor to Commissioner Michael O'Rielly. During the meeting, we discussed the importance of the FCC maintaining the current emission mask for the 3.5 GHz band so as to preserve flexibility to use 3.5 GHz spectrum for small cells and to reduce interference. The attached presentation guided our discussion.

Please direct any questions to the undersigned.

Respectfully Submitted,

/s/ David M. Don
David M. Don
Vice President, Regulatory Policy,
Comcast Corporation

cc: Erin McGrath

3.5 GHz CBRS Emissions Mask Evaluation

April 18, 2018

Summary

- FCC rules in place for 3 years have included CBRS emissions mask requirements that the industry has been building to
- Qualcomm and others have proposed a change to the rules that would relax the CBRS emissions mask
- These proposals would reduce overall utility and efficiency of the CBRS band, and would impact adjacent bands
- Furthermore, Qualcomm's proposal is inconsistent with 3GPP specifications for small cell deployments
- For these reasons, the FCC should reject proposals to relax the CBRS emissions mask specified in current rules

Effect of Emissions Mask Relaxation

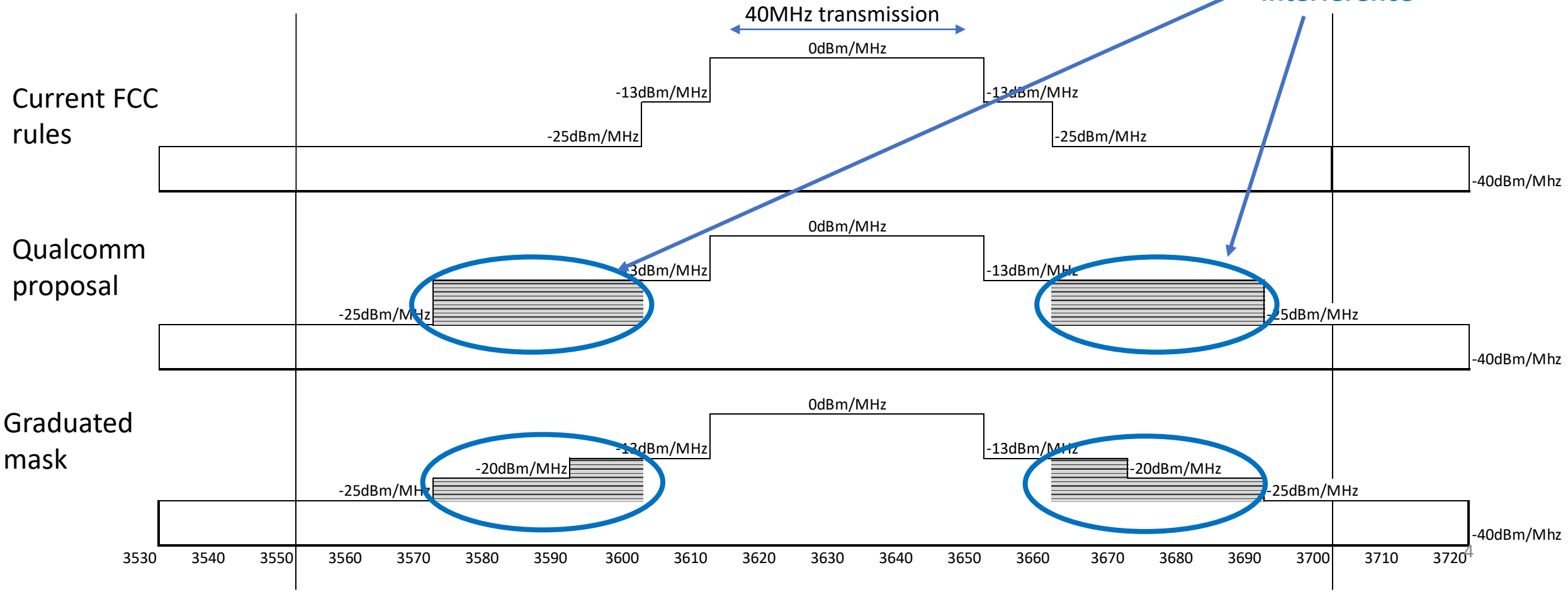
- Relaxing the CBRS emissions mask specified in current FCC rules would reduce overall utility and efficiency of the band, and would impact adjacent bands
- Specifically, relaxing the emissions mask would:
  1. Reduce Priority Access License (PAL) spectral efficiency due to inter-licensee interference
  2. Reduce General Authorized Access (GAA) efficiency and usage of the band
  3. Diminish the flexibility of the SAS to dynamically allocate frequencies and maximize productive use of the spectrum
  4. Increase noise into the bands adjacent to CBRS, affecting incumbent users and complicating any future efforts to reform these bands.

Reduction in CBRS Utility and Efficiency

40MHz carrier example (power spectral density comparison)

- Gray areas show increased interference in nearby CBRS channels
- 60 MHz of the band at risk of increased interference under the relaxation proposals

Higher power density in nearby channels decreases spectral efficiency due to increased interference



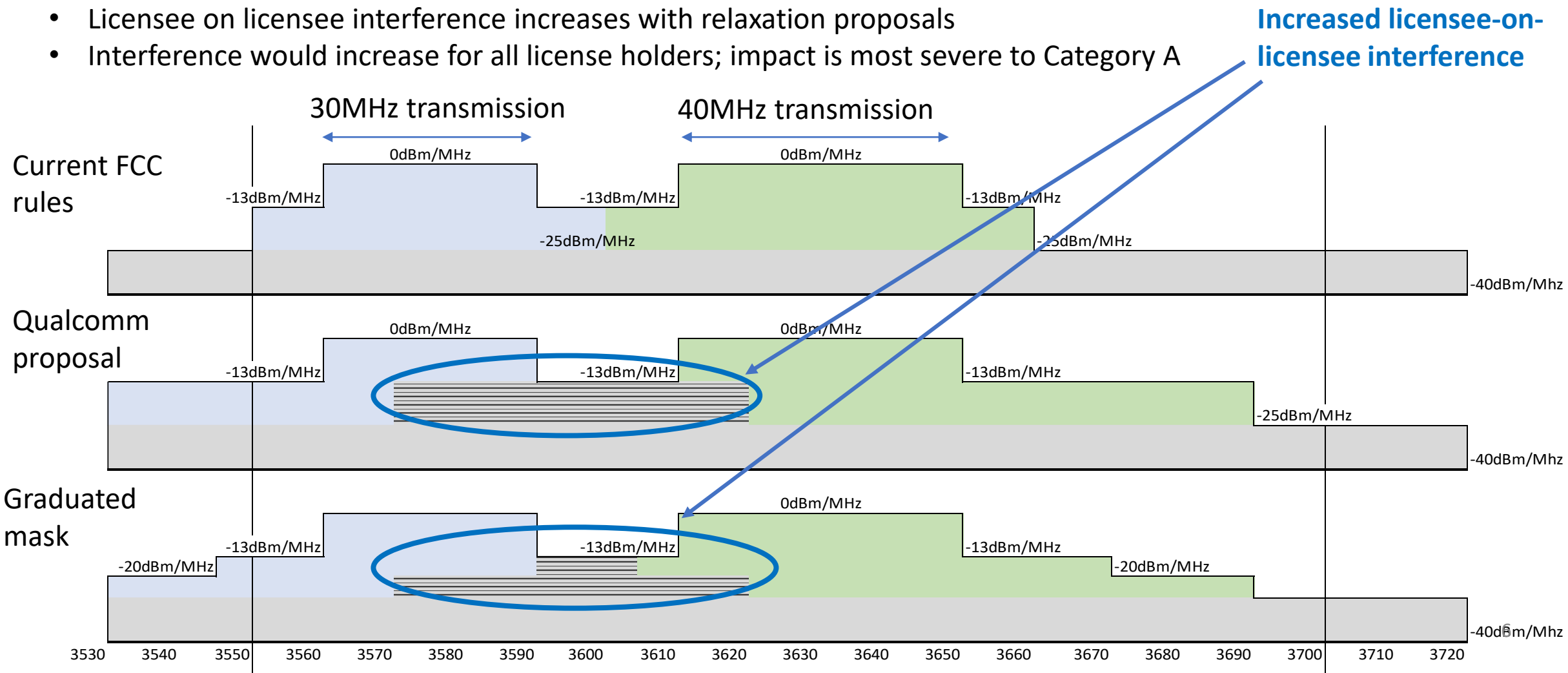
Current Rules Enable Small Cell Deployment

- Current rules are consistent with 3GPP specifications for small cells
  - See 3GPP 36.104, Sec.6.6, outlining the mask appropriate for various LTE base station types
- Qualcomm's proposal relaxes the mask further than appropriate for small cells, and appears oriented toward macrocell deployment in exclusive licensed spectrum with wide spacing between nodes
- Relaxing the mask is therefore inappropriate for CBRS, which is well suited for small cells in a dynamic, shared use environment

Inter-Licensee Interference Effect

7 PAL licenses, 30MHz and 40MHz operators (power spectral density comparison)

- Licensee on licensee interference increases with relaxation proposals
- Interference would increase for all license holders; impact is most severe to Category A

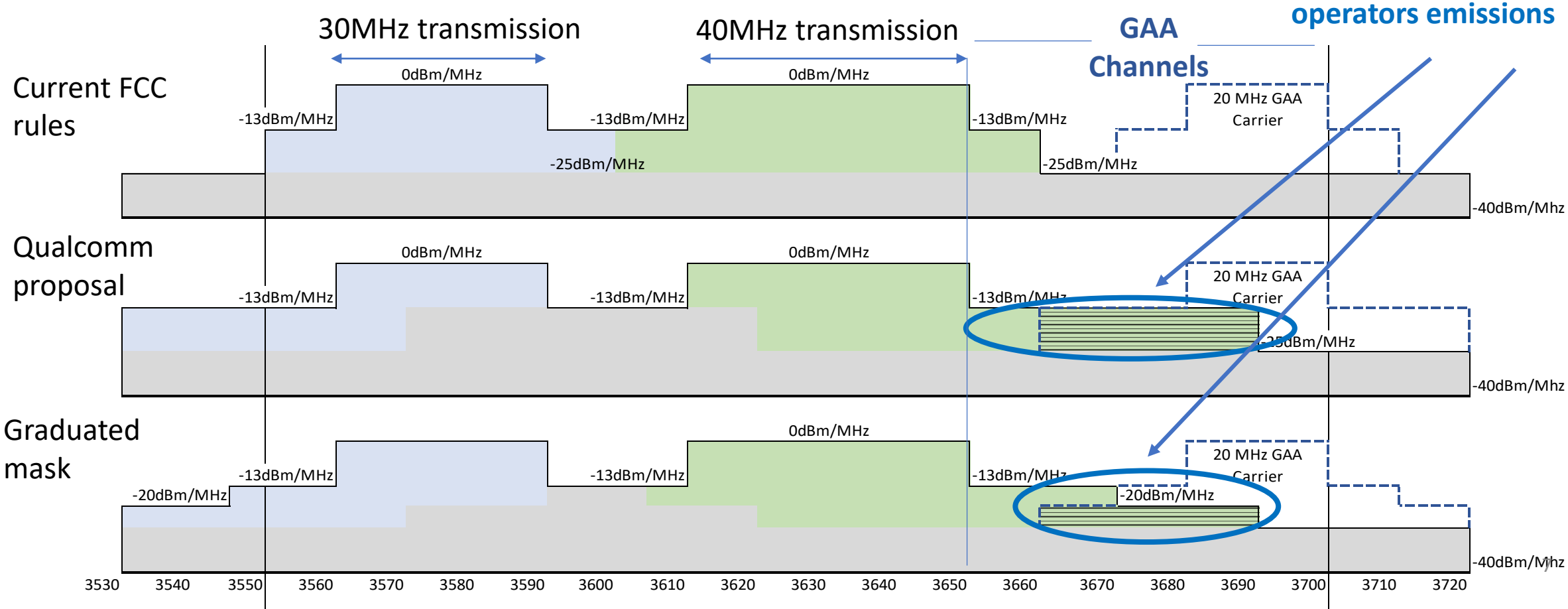


GAA Reduction Impact

7 PAL licenses, 30MHz and 40MHz operators (power spectral density comparison)

- Increased emissions into upper band compromises GAA channels
- Also reduces GAA utility and compromises performance throughout the band

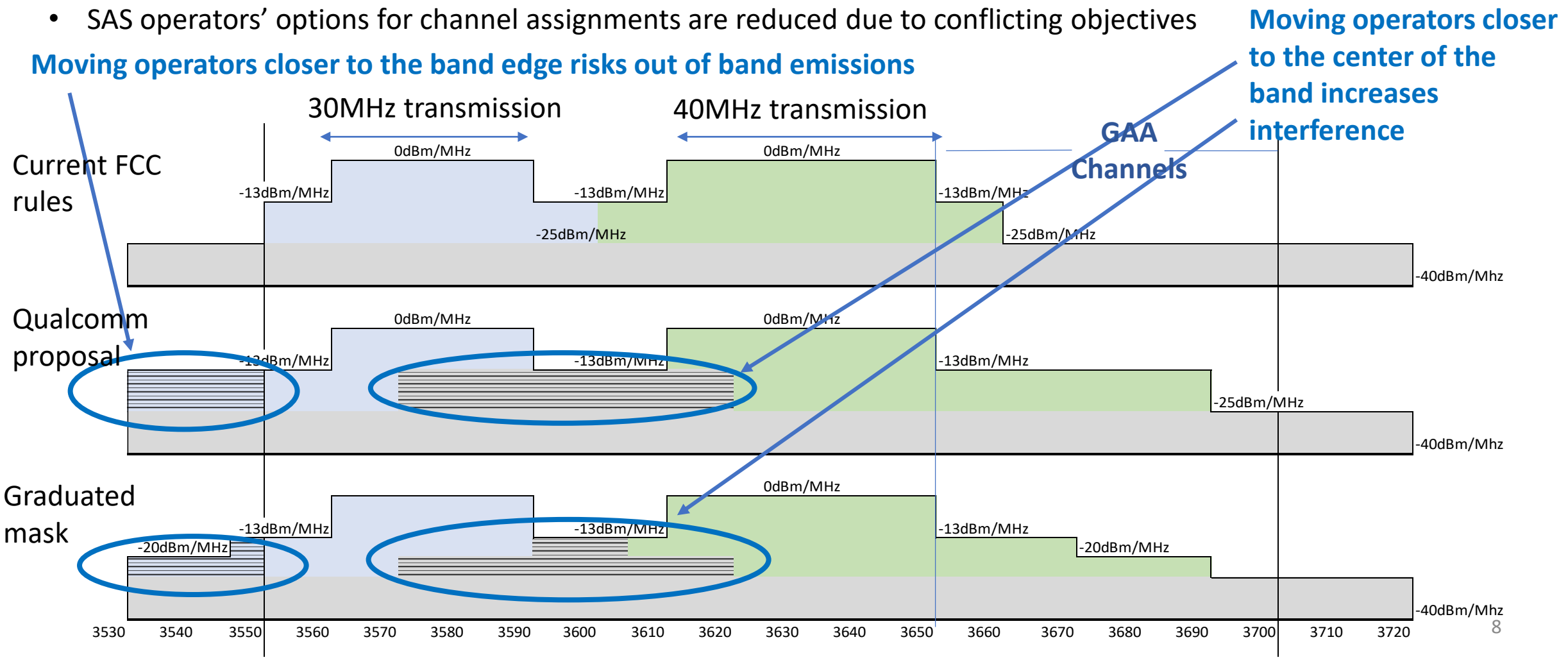
GAA value reduced due to higher nearby PAL operators emissions



Reduction in Flexibility for SAS

7 PAL licenses, 30MHz and 40MHz operators (power spectral density comparison)

- SAS operators' options for channel assignments are reduced due to conflicting objectives



Greater Risk of Out of Band Emissions

7 PAL licenses, 30MHz and 40MHz operators (power spectral density comparison)